

small number of patients, but clearly lumbar puncture is fully warranted in a patient with a history of syphilis and neurological signs.

Group E (those followed up after oral treatment) included patients treated with: tetracycline HCL 500 mg four times daily, erythromycin stearate 500 mg four times daily, or, more recently, doxycycline 200 mg daily for 17 days to treat early syphilis and for 30 days to treat late syphilis. It was reassuring that there were no positive results on lumbar puncture in this group of 16 patients.

Group F (patients treated with benzathine penicillin or benzathine, procaine, and potassium penicillin) was a unique group of patients selected for lumbar puncture (presenting mostly from 1979 to 1981) after concern had been expressed in published reports that treatment with these drugs did not provide treponemical levels of penicillin in cerebrospinal fluid.¹⁻³ Regimens at this clinic before 1978 had been: benzathine penicillin 1.8 g in weekly injections for three weeks to treat early syphilis and for five weeks to treat late syphilis; or benzathine penicillin 450 mg, procaine penicillin 300 mg, and potassium penicillin G 187 mg (Bicillin all purpose injection, Wyeth) in seven injections of 1.2 MU at twice weekly intervals. In this group of patients lumbar puncture was performed before treatment, and four out of 76 (5.3%) gave positive results, which was similar to the overall average in this report. Such a finding is reassuring.

The results of serological tests before lumbar puncture were also reviewed (table II). No patient with a negative result to the VDRL test (115 patients) or with a negative result to the TPI test (35 patients) had a positive result on lumbar puncture. It seems safe to conclude that a negative VDRL test result, especially if associated with a negative TPI test result, is unlikely to yield a positive lumbar puncture result. I therefore concluded that lumbar puncture was unlikely to be justified in the absence of positive reagin serology.

In conclusion, the results of this report confirm that lumbar puncture should be offered to the following patients: (i) those with primary or secondary syphilis yielding positive reagin test results one year after completion of treatment; (ii) those with serology test results consistent with late latent syphilis, with at least a weakly positive result to the VDRL test; and (iii) those with neurological signs.

Yours sincerely,

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TO THE EDITOR, *Genitourinary Medicine*

Gonococcal pelvic inflammatory disease, oral contraceptives, and cervical mucus

Sir,
Studies have shown a lower incidence of pelvic inflammatory disease (PID), particularly PID due to *Neisseria gonorrhoeae*, in women taking oral contraceptives.^{1,2} It had been suggested that this might be due to a change in menstrual flow or in cervical mucus, either of which might be hostile to *N gonorrhoeae*.

To test the second hypothesis, we examined the occurrence of cervical gonococcal infection in women whose only sexual partner had contracted gonococcal urethritis from another partner. We examined the medical records of such women from two years, 1979 and 1982. Two groups were extracted: women using oral contraceptives and women using no contraceptives. We compared the two groups for a variety of factors, such as parity, age, marital state, and race, and found no difference between the two groups. When we looked at the number of patients in each group who had positive cultures for *N gonorrhoeae*, from the cervix, we found no appreciable differences (see table).

TABLE *Gonococcal cervicitis and contraceptive technique in 1979 and 1982*

Contraception	No with positive diagnosis/ No of contacts(%)	
	1979	1982
Oral	20/52 (38.5)	48/75 (64.0)
None	11/27 (41.0)	22/34 (64.7)
Total	31/79 (39.2)	70/109 (64.2)

We therefore conclude that, although protection against PID by oral contra-

ception has been shown, this seems not to be mediated by a change in cervical mucus.

Your faithfully,

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TO THE EDITOR, *Genitourinary Medicine*

Sexual behaviour of women with human papillomavirus lesions of the uterine cervix

Sir,
In their paper on the sexual behaviour of women with human papillomavirus (HPV) lesions of the uterine cervix, Syrjänen *et al* (*British Journal of Venereal Diseases* 1984; **60**:243-8) claimed that their data showed the dramatic influence of sexual behaviour on the transmission of cervical HPV lesions. May I suggest that their control group was inadequately defined, poorly matched, and not randomly selected.

No mention was made of the marital status of women in either group until late in the discussion, when the control subjects were noted to be mostly married; it seems fair to assume, therefore, that the patients with HPV were mostly unmarried. The control group was also said to be a randomly selected series of women who had normal Pap smears, but how can randomised selection have been achieved in view of the requirement for a normal Pap smear and the need for response (rate not given) to a mailed questionnaire?

Surely the control subjects were selected for normal cervical cytology and positive response to mailing. This seems also to have resulted in selection for married state and the implication that p values for this must be highly significant. If the controls were effectively selected for monogamy as well as absence of HPV infection of the cervix, then the findings in Tables II-V became inevitable.

Yours faithfully,

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